ABSTRACT OF THE DISCLOSURE

Methods and system for automated inference of physico-chemical interaction knowledge from databases of term co-occurrence data. The co-occurrence data includes co-occurrences between chemical or biological molecules or co-occurrences between chemical or biological molecules and biological processes. Likelihood statistics are determined and applied to decide if co-occurrence data reflecting physico-chemical interactions is non-trivial. A next node or an unknown target representing chemical or biological molecules in a biological pathway is selected based on co-occurrence values. The method and system may be used to further facilitate a user's understanding of biological functions, such as cell functions, to design experiments more intelligently and to analyze experimental results more thoroughly. Specifically, the present invention may help drug discovery scientists select better targets for pharmaceutical intervention in the hope of curing diseases. The method and system may also help facilitate the abstraction of knowledge from information for biological experimental data and provide new bioinformatic techniques.

McDONNELL BOEHNEN
HULBERT & BERGHOFF
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001